

## Summary Notes from the 10 July 2007 Generic Technical Issue Discussion on Point of Compliance

Attendees: Representatives from Department of Energy-Savannah River (DOE-SR), DOE-Headquarters (DOE-HQ), and the U.S. Nuclear Regulatory Commission (NRC), met at the NRC offices in Rockville, Maryland on 10 July 2007. Representatives from the South Carolina Department of Health and Environmental Control (SCDHEC) and State of Idaho participated in the meeting via a teleconference link.

Discussion: DOE believes that based on the position papers provided prior to the meeting, DOE and NRC staff have many areas of agreement and no significant areas of disagreement with respect to the specific point of compliance requirements articulated in the respective DOE and NRC requirements. The NRC position paper was based on NUREG-1854 and the DOE position paper was based on DOE Order 435.1 and its associated technical basis and guidance documents.

Topics: The following three specific topical areas were discussed during the meeting:

1. NRC staff perspectives on point of compliance
2. DOE perspectives on point of compliance
3. Joint perspectives on point of compliance

Summary: The following summarizes the discussion and the principal points of technical understanding identified during the meeting, unless otherwise noted.

### *NRC staff perspectives on point of compliance*

- NRC staff noted that the statutory authorities for both the NRC and DOE arise from the Atomic Energy Act of 1954 as amended.
- NRC staff stated that time of compliance and period of institutional control are related issues and should be integrated with consideration of appropriate points of compliance.
- NRC staff noted that it has approved technical policy positions both on point

of compliance and on time of compliance, and an issue paper to the Commission (a SECY paper) may be required if it is necessary to deviate from the established NRC technical policy issues.

- NRC staff noted that the requirements of the Code of Federal Regulations, Title 10, Part 61 (10 CFR 61) are based, in part, on the expectation that low-level waste disposal sites will not be released for unrestricted use. The requirements of 10 CFR 61 were developed to provide protection from low-level waste disposal facilities, (e.g., it will generally decay to levels which pose minimal risk if disturbed within 500 years) which may be different from the residue in high-level waste tanks.
- NRC staff noted that while the point of compliance is at the 100 meter buffer zone boundary, the point of compliance can be elsewhere if adequate justification is provided.
- NRC staff stated that reliance on institutional control to restrict access can be challenging and requires justification including consideration of the consequences of institutional control failure. The Love Canal incident is a prime example of unanticipated loss of land use control and the potential pitfalls of reliance on institutional control.
- The NRC staff expressed interest in the DOE concept of institutional control flexibility in DOE Manual 435.1-1 but expressed lack of understanding as to how DOE implements it. The NRC staff is interested in a description of the DOE process for invoking and justifying institutional controls and establishing the boundaries for those institutional controls.
- NRC staff stated that long-term protection of the public should rely on site and engineered features with institutional control providing secondary protection.

#### *DOE perspectives on point of compliance*

- DOE stated that their perspective on point of compliance is derived from the DOE Manual 435.1-1, which is founded principally on the Integrated Safety Management System, is supported by sound technical bases, and is implemented with comprehensive guidance.
- DOE noted that a related regulatory regime under which much DOE

remediation work is performed is Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA has requirements (implemented by the Environmental Protection Agency) for detailed land use compliance plans, land use controls, periodic reviews extending into the indefinite future, notification of land use changes, and perpetual institutional control.

- DOE stated that its Section 3116 activities at SRS will be performed consistent with Federal Facility Agreement for the Savannah River Site and the associated CERCLA and the Resource Conservation and Recovery Act (RCRA) requirements (e.g., the General Separations Area at Savannah River which includes both CERCLA and RCRA actions).
- DOE noted that CERCLA allows for imposing greater protection areas and durations when necessary for effective management of hazardous materials.
- DOE noted that it uses facility performance assessments to guide facility design, construction, and operations and uses projections of interacting source projections through composite analyses to guide larger scale site remediation decisions and policies. Employing a big picture approach (like the NRC risk-informed approach) is more likely to maximize benefit from the available funding than is addressing potentially interacting facilities individually.
- DOE noted that worker risk is an important consideration in developing and optimizing remediation plans.
- DOE stated that drawing the analogy between commercial low-level waste disposal facilities and DOE closure of tanks consistent with Section 3116 is inappropriate because the DOE closures are remediation actions, not operational disposal actions. It must be recognized that 10 CFR 61 was developed in the context of problems with commercial low-level waste disposal facilities.
- DOE stated that, in considering point of compliance, is it important to take into consideration local practices so the scenarios established for analyses will be credible, but analyses must also acknowledge that local practices could change.
- DOE noted that DOE land use commitments are driven by site-specific factors. DOE further noted that some sites, although currently not the

Savannah River Site, are subject to permanent land withdrawal.

- DOE noted that the manner in which cumulative impacts are addressed influences the point of compliance and should be discussed, as the NRC position on cumulative impacts may present difficulty in the point of compliance determinations. Interim cumulative projections for multiple sources are problematic when some of the sources are slated for future remediation thus reducing the projected cumulative dose.
- DOE noted that grouping of facilities has implications for both establishing the disposal boundary and for forecasting cumulative impacts. DOE requirements acknowledge that inadvertent intrusion is possible, but have justified limiting the duration of such incidents to one year.

*Joint perspectives on point of compliance*

- DOE and NRC staff agreed that there are regulatory regimes other than the NRC (10 CFR 61) and DOE (DOE Manual 435.1-1) that also drive point of compliance determinations.
- DOE and NRC staff agreed that a key question is how considerations of institutional control can be factored into identification of an appropriate point of compliance.
- DOE and NRC staff agreed that protection of the public in the accessible environment and protection of inadvertent intruders are both important, but there are significant differences in the protection goals and approaches for achieving them.
- DOE and NRC staff agreed that the highest potential dose outside the buffer zone may be the intersection of plumes from multiple sources thus identifying an appropriate point of compliance for multiple interacting plumes from multiple sources.
- DOE and NRC staff agreed that an alternative to protection of inadvertent intruders with institutional controls is to evaluate the protection afforded by passive engineered features that discourage intrusion into the waste matrix.
- DOE questioned whether it is appropriate to include areas of contaminant plume interaction in the buffer zone.

### Conclusions and Actions:

- Although DOE and NRC staff agreed that deviation from the standard point of compliance at the boundary of the 100-meter buffer may be appropriate, information and analysis is necessary to adequately support such deviation. DOE and NRC staff agreed that appropriate points of compliance may depend on some site-specific considerations and may need to be addressed on a site-specific basis.
- NRC staff stated that three key questions exist. (1) How does point of compliance drive cleanup levels versus the need to satisfy Maximum Concentration Limits (MCLs) for groundwater protection? (2) What flexibility does DOE have in establishing the point of compliance? (3) What level of justification is needed to support NRC acceptance of greater reliance on institutional controls than is done for commercial low-level waste disposal facilities?
- NRC staff and DOE agreed on a proposed path forward for development of compatible NRC and DOE positions on point of compliance and institutional control: DOE plans to develop a process for justification of point of compliance and time of institutional control based on the point of compliance generic technical issue discussions. NRC staff agreed to evaluate DOE's proposal in preparation for further discussions on this topic.
- DOE plans to work with the affected sites to ensure that the generic process developed is suitable for all of the sites and reflects the NRC position paper to the extent possible.
- NRC staff plans to perform a comparative analysis of the NRC position paper and the paper DOE proposes to submit on their proposed approach to address point of compliance with the goal of developing a mutually acceptable position that is fully protective of public health and safety.